

What is claimed is:

1. An excavation tooth and fastener assembly for installation upon an earth moving implement having an adaptor with an upright opening comprising:

an excavation tooth having a tooth point at one end and a tooth base at an opposite end configured for reception upon the adaptor;

a first upper recess in the tooth base accessible from an exterior of the tooth base;

a second lower recess in the tooth base opposite the first upper recess;

an upright opening in the tooth base joining the first and second recesses;

a retaining pin including a stop member with an engageable surface at one end for abutting an interior surface within the vertical opening to limit entrance of the pin into the vertical opening during insertion of the pin from a bottom of the assembly; and

a shank on the retaining pin at an opposite end configured for securable engagement by a suitable fastener;

whereby the retaining pin is vertically insertable through the tooth and adaptor for securement therein by a fastener.

2. An excavation tooth and fastener assembly for the installation of excavation teeth on an adapter secured to a leading edge of an earth moving implement comprising:

an excavation tooth carried by the adapter having at one end a tooth point and at the end a tooth base configured for reception upon the adapter;

an upper recess in the tooth base accessible from an exterior of the tooth base;

a lower recess in the tooth base opposite the upper recess accessible from an exterior of the tooth base;

a retaining pin having an engageable surface to limit the extent to which the pin enters into the vertical opening; and

an upright shank carried by one end of the retaining pin configured for securable engagement by a compatible fastener in the upper recess;

whereby the retaining pin is vertically insertable through the lower recess into the opening positioning the shank in the upper recess for securement by the fastener.

3. The excavation tooth and assembly set forth in Claim 2 including a thickened upper surface of the tooth for protecting the fastener from shearing forces during digging.

4. The excavation tooth and fastener assembly set forth in claim 2 wherein the engageable surface includes a lateral

projection at a bottom of the pin.

5. The excavation tooth and fastener assembly set forth in claim 2 wherein the pin is wedge shaped in cross section narrowing toward the tooth point.

6. The excavation tooth fastener assembly set forth in claim 2 including a lock nut carried by the upright shank.

7. The excavation tooth and fastener assembly including a vertical passageway extending through the tooth and the adapter for reception of the pin.

8. The excavation tooth and fastener assembly set forth in claim 2 wherein said pin and shank have a forward inclination.

9. For use in securing an excavation tooth having a tooth point on one end and a tooth base at the other end configured for reception upon an adaptor secured to a leading edge of an earth moving implement a retaining pin comprising:

an elongated steel retaining member;

an engageable surface carried at a lower end of the retaining members to limit the extent to which the pin may enter a vertical opening in the adapter; and

an upright threaded shank carried by the other end of the retaining pin configured for securable engagement by a compatible fastener;

whereby the retaining pin is insertable upwardly through the tooth base and adapter for securement by the fastener.

10. An excavation tooth and fastener assembly for the installation of excavation teeth on an adapter secured to a leading edge of an earth moving implement comprising:

an excavation tooth having a tooth point on one end and a tooth base at the other end configured for reception upon the adaptor;

an upper recess in the tooth base accessible from an exterior of the base;

a lower recess in the tooth base accessible from an exterior of the tooth base;

a retaining pin;

an engageable surface to limit the extent to which the pin enters a vertical opening in the adapter; and

an upright threaded shank carried by one end of the retaining pin configured for securable engagement by compatible fastener;

whereby the retaining pin is insertable through the adapter and into the upper and lower recesses for securement by the fastener.

11. An excavation tooth and fastener assembly for the replacement of worn teeth on an earth moving implement having an

adaptor secured to the implement comprising:

an excavation tooth carried by the adapter having at one end a tooth point and at an opposing end a hollow tooth base configured for reception upon the adaptor;

a first upper recess and a second lower recess in the tooth base in corresponding symmetrical alignment with the vertical opening in the adaptor for creating a vertical opening therethrough;

an integral raised cone surrounding and shielding the first upper recess in the tooth base;

a retaining pin having an enlarged projection at one end and a threaded shank at an opposing end for securable engagement by correspondingly threaded fastener,

whereby the retaining pin is vertically insertable through the lower recess into the vertical opening in the adaptor, the enlarged projection of the retaining pin limiting the distance the pin enters the vertical opening and the upper recess for engagement by fastener to secure the tooth through the adaptor to the implement.

12. A method of installing an excavation tooth and fastener assembly on an adapter secured to a leading edge of an earth moving implement comprising the steps of:

providing an excavation tooth having a tooth point on one

end and a tooth base at the other end configured for reception upon the adaptor;

inserting a retaining pin through a lower recess in the tooth base opposite an upper recess accessible from an exterior of the tooth base;

limiting the extent to which the pin enters a vertical opening in the adapter; and

securing an upper end of the retaining pin by a compatible fastener;

whereby the retaining pin is insertable through the adapter and in the upper and lower recesses for securement by the fastener;

13. The method of installing an excavation tooth as set forth in claim 12 wherein the compatible fastener is a bolt, and including the step of holding the pin in a up position by suspending the pin from the bolt.

14. The method of installing an excavation tooth as set forth in claim 12 including the step of providing a recess in a thickened surface of the tooth to protect the bolt from shearing forces during digging.